

Douglas Ensminger
Filed: Aug.

UNITED STATES DEPARTMENT OF AGRICULTURE
U.S. Bureau of Agricultural Economics.

³ STATISTICAL SUPPLEMENT

to

VOLUME AND CHARACTERISTICS OF MIGRATION TO ARIZONA, 1930-39.
(Arizona Agricultural Experiment Station General Bulletin No. 175)

Varden Fuller and E. D. Tetreau

Arizona Agricultural Experiment Station,

Arizona State Department of Education, and United States

Department of Agriculture, Bureau of Agricultural Economics, cooperating

(Copies of this Supplement or Bulletin No. 175 may be obtained by writing the University of Arizona, Tucson, or the Bureau of Agricultural Economics, (Berkeley, California.)

523:1133
1133

APPENDIX I

Survey Methods

Data for the survey were obtained from questionnaires (see below) filled out by public school children who were members of families that had moved into the state after 1929. The questionnaire was designed to be answered by children with a minimum of instructions and, therefore, the questions were kept simple. Teachers were requested to check their pupils' replies for completeness of response and to make sure that they understood the questions.

Returned questionnaires were sorted alphabetically and the replies of brothers and sisters were combined. Those families for which returns were received from all children reported to be attending school were considered to be "complete." The "incompletes" were alphabetized for the entire county and then with the "incompletes" in adjacent counties. After this process, the remaining groups, in which there were pupils reported to be in school but for which no questionnaires were found, were considered to be "incomplete."

Data for each family were coded for punching on a Hollerith card. The family was considered as the unit, and during the coding the replies from all responding children were consulted. Frequently, the information on questionnaires was incomplete and could be supplemented from the replies of other children in the family. If there were discrepancies between the various returns, the reply of the majority of the children was

followed, and if there were no majority, the reply of the oldest child was used.

Following are definitions and descriptions of the methods used in determining the principal statistical items:

Families included: Families eligible for inclusion were those who had moved into the state after 1929 and had children enrolled in the public schools at the time of the survey. Families that had been living in the survey states but who moved out and in again after January 1, 1930, also were included.

Residence in 1930: The state and county which the pupils considered as their place of residence during 1930.

Occupations: Occupations at the time of the survey were classified from replies to the question, "What kind of work does your father (or guardian) do right now?" Both the job and the industry were specified. "Former occupations" were classified from the replies to the question, "What kind of work did he do before he came to Arizona?" In order to make the occupational classifications comparable with the census, the census code book, Alphabetical Index to Occupations, Fifteenth Census of the United States: 1930, was used. Occupations were grouped according to the system described by Alba M. Edwards in, A Social-Economic Grouping of the Gainful Workers of the United States and the group symbols were taken from the Alphabetical Index of Occupations by Industries and Social Economic Groups, Bureau of the Census, 1937. A special group symbol was used to designate the unemployed.

ARIZONA MIGRATION SURVEY

Arizona State Department of Education, the University of Arizona, and the U. S. Bureau of Agricultural Economics, cooperating
Principals: Please return to U. S. Bureau of Agricultural Economics, Tucson

Teacher.....Grade.....School.....City or Town.....

District Number.....County.....Pupil's Race or Nationality.....

NOTE: Teachers:—Please fill in above

PUPIL'S QUESTIONNAIRE: PLEASE PRINT

1. How many brothers have you?.....

Their ages?	Do they live at home with you? (Yes or No)	Are they in grade or high school? (Yes or No)
(a).....	(a).....	(a).....
(b).....	(b).....	(b).....
(c).....	(c).....	(c).....
(d).....	(d).....	(d).....
(e).....	(e).....	(e).....

2. How many sisters have you?.....

Their ages?	Do they live at home with you? (Yes or No)	Are they in grade or high school? (Yes or No)
(a).....	(a).....	(a).....
(b).....	(b).....	(b).....
(c).....	(c).....	(c).....
(d).....	(d).....	(d).....
(e).....	(e).....	(e).....

3. Your age..... Are you a boy or a girl?..... What grade are you in?.....

4. How many different schools did you attend last school year?.....

5. Name all the towns or places you have lived in since January of last year:

(a)..... (b)..... (c)..... (d).....

6. Do you expect to stay in Arizona during the rest of this school year?.....

If not, what state are you going to?.....

7. Do you work?..... Do you work during the school year?..... What do you do?.....

8. In what state were you born?.....

9. In what year did your parents (or guardian) come to Arizona?.....

10. In what year did your parents (or guardian) come to the county you live in now?.....

11. What was the last place in which your parents (or guardian) lived for one month or more *just before* coming to Arizona

State..... County..... Town.....

12. Where did your parents (or guardian) live in 1930?

State..... County..... Town.....

13. Since 1930, what states have your parents (or guardian) lived in for one month or more?

Name them all. (a)..... (b)..... (c).....

(d)..... (e)..... (f)..... (g).....

NOTE: In answering questions 14 and 15 please tell just what kind of work your father (or guardian) does; for example, say whether he works as a carpenter, a farmer, drives a truck, works for wages on a farm, or *whatever he does*. Also, say what kind of a company he works for, such as a sawmill, farm, cannery, railroad, etc. Both spaces *must* be filled in.

14. What kind of work does your father (or guardian) do right now?.....

Occupation (Job)

Industry (Company)

15. What kind of work did he do *before* he came to Arizona?.....

Occupation (Job)

What is your father's (or guardian's) age?.....

Industry (Company)

16. Does your father (or guardian) own or rent a farm in Arizona now?.....

17. Did he own or rent a farm before he came to Arizona?.....

18. What is your name?..... Address?.....

19. Your father's (or guardian's) full name?.....

(first)

(middle)

(last)

(OAKLAND-12-2-39-50,000)

APPENDIX II

Estimating the Ratio of Coverage*

The attempt was made to enumerate, by means of questionnaires distributed through the public school system, all families that had moved into Arizona since 1929 and had children in school at the time the survey was made. Lack of completeness in the enumeration was due to: (1) absence from school at time survey was taken, (2) unwillingness to cooperate, (3) misunderstanding of survey, and (4) schools not returning questionnaires. Estimates of coverage within the reporting schools can be made by assuming the first three of the above reasons followed chance. Since a family was enumerated if only one child responded, the probability of missing a family is less the larger the family. It is assumed that failure to respond is distributed at random among all eligible pupils, the probable number of families missed can be estimated by application of probability theory. The available information for this calculation is: (1) total number of families reporting, (2) number of school children in each family reporting, and (3) number of children responding for each family reporting.

In the binomial expansion $p + q = 1$

p = proportion of families
responding

q = proportion of families
failing to respond

* The authors wish to acknowledge the major participation of Seymour Janow, Davis McEntire, Howard A. Finn, and W. W. Troxell in the development of Appendices II, III, and IV.

For those families with two children in school $(p + q)^2$ will represent the proportions of the 2-child families where both children responded, one child responded, and no response

$$(p + q)^2 = p^2 + 2pq + q^2$$

If families with both responding children = A

and families with one responding child = B

and total eligible families = T,

$$p^2 = \frac{A}{T} ; \quad T = \frac{A}{p^2}$$

$$2pq = \frac{B}{T} ; \quad T = \frac{B}{2pq}$$

$$\frac{A}{p} = \frac{B}{2q}$$

$$2qA = pB = B(1-q) = B - qB$$

$$2qA + qB = B$$

$$q(2A + B) = B$$

$$q = \frac{B}{2A + B} = \frac{\text{No. of families with only one return}}{\text{total number of children reporting}}$$

Proportion of families with	both	:	one	:	neither	
	children	:	child	:	child	
	responding	:	responding	:	responding	
	-----	+	-----	+	-----	= All families
		:		:		
	p^2	+	$2pq$	+	q^2	

$$1 - q^2 = p^2 + 2pq = \frac{\text{Number of responding families}}{\text{number of eligible families}}$$

$$\text{Eligible families} = \frac{\text{Responding families}}{1 - q^2}$$

"q" was calculated for 3-, 4-, and 5-child families and showed a tendency to increase as the number of children per family increased. This action is explained by the fact that the larger families would contain a higher proportion of siblings in the same school and even in the same class. In some of the smaller schools it was observed that where there were siblings in the same school, the teachers had only one of the children fill out a questionnaire. This effect was not great, but showed its influence in the larger families. Thus, if we are to assume a chance probability the more correct "p" and "q" would be the "p" and "q" of the 2-child families.

The ratio of families enumerated to the total number of eligible families is determined as follows: Where n = number of school children in the family, $(p + q)^n$ represents the proportion of total eligible families with n, n-1, n-2, . . . etc., children reporting.

Expanding: $p^n + np^{(n-1)}q + \frac{(n)(n-1)}{2!} p^{(n-2)}q^2 + \frac{(n)(n-1)(n-2)}{3!} p^{(n-3)}q^3 + \dots + q^n$

q^n = the ratio of the nonreporting families to the total eligible families

.'. the proportion of $\frac{\text{families reporting at all}}{\text{total families}} = 1 - q^n$

R = responding families

E = total eligible families

$$E = \frac{R}{1 - q^n}$$

nE = number of eligible children in eligible families

In order to estimate the number of families who were not included due to the schools' not returning the questionnaires, it was assumed that migrant families in those regions existed in the same proportion as the average among all reporting schools. Thus, the number of eligible children is corrected by the factor of

$$\frac{\text{average daily attendance of schools reporting}}{\text{total average daily attendance of all schools}}$$

The total eligible children is now corrected for those

$$(1) \text{ not replying } \frac{1}{1 - q^n}$$

$$(2) \text{ schools not participating } \frac{\text{total ADA}}{\text{responding ADA}}$$

Total eligible children = nE

$$nE = \frac{\text{total ADA}}{\text{responding ADA}} \sum \frac{nR_n}{1 - q^n}$$

The computation of the ratio of coverage and the estimate of total eligible pupils is as follows:

RATIO OF COVERAGE AND ESTIMATION OF TOTAL ELIGIBLE PUPILS ARIZONA MIGRATION SURVEY

Pupils: per : families :		Number of: returns :		Number of: pupils :		Ratio of returns: received to :		Value: of :		Value of q n :		Estimated: eligible families:		Total : eligible families:		Total : pupils :	
family: enumerated:		received :		reported :		no. reported :		p :									
Totals	13,334	20,881	26,305									15,596	15,963	29,579			
1	5,390	5,890	5,890						.250	.750		7,853	8,038	8,038			
2	3,972	6,371	7,944			80.2		.750	.062	.938		4,235	4,336	8,672			
3	2,097	4,603	6,291			73.2			.015	.985		2,129	2,179	6,537			
4	892	2,481	3,568			69.5			.004	.996		896	917	3,668			
5	351	1,082	1,755						.001	.999		351	359	1,795			
6	98	334	588							1.000		98	100	600			
7	17	73	119									17	17	119			
8	9	31	72									9	9	72			
9	2	6	18									2	2	18			
10	6	10	60									6	6	60			

$$\text{Ratio \#1} = \frac{\text{ADA covered}}{\text{Total ADA}} = \frac{90,629.0}{92,758.6} = 97.7\%$$

$$\text{Ratio \#2} = \frac{\text{Families enumerated}}{\text{Estimated eligible families}} = \frac{13,334}{15,596} = 85.5\%$$

$$\text{Gross coverage} = 97.7\% \times 85.5\% = 83.5\%$$

APPENDIX III

Estimates of In-migration, 1930-39
(Based on the Surveys)

To estimate the total in-migration 1930-39 from the survey data, it is necessary to determine the probable value of the ratio of total persons entering the area to school children in the migrant group. This "inflating ratio" multiplied by the total number of pupils eligible for inclusion in the survey gives the estimated persons entering the state. The "inflating ratio" is determined by assuming that the proportion of public school pupils among the migrant group is the same as in the population of the states from which the migrants came. These ratios were calculated state by state for the principal states of origin and based on the 1930 Census and then combined into an aggregate weighted ratio as follows:

State of origin	Enumerated families	Ratio	Product
Oklahoma	2,595	4.40	10,484
Texas	2,083	4.72	9,832
California	1,455	5.14	7,479
New Mexico	898	4.26	3,825
Arizona	639	4.61	2,946
Arkansas	625	4.13	2,581
Missouri	470	4.97	2,336
Colorado	451	4.47	2,016
Iowa	402	4.33	1,741
Illinois	397	4.93	1,957
Other	3,319	4.57	15,168
Total	13,334	4.53	60,365

Multiplying the total of 29,579 eligible pupils (Appendix II) by the above weighted ratio of 4.53 results in an estimate of 134,000 persons who moved into Arizona from other states and were still there in January 1940.

APPENDIX IV

Method for Apportioning a Population Change as Between the
Influences of Births and Deaths and of Migration

The net effect of migration¹ on population between census enumerations can be approximated from the following data: (1) the total births and deaths within the area for the period; (2) the total population at the beginning and the end of the period.

Subtracting the total number of deaths from the total number of births gives the total "natural increase" during the period. This total "natural increase" has occurred not only to the population in the state at the beginning of the decade but includes as well the births and deaths occurring to in-migrants who entered the state during the decade. This "natural increase" will also include the births occurring to persons in the area at any time during the decade but who emigrated from the area before the end of the decade. The addition of the total "natural increase" during a decade to the population at the beginning of the decade equals the total number of persons in the region at the end of the decade except for the net difference between the number of persons entering over the persons leaving the region. The natural increase occurring to the (net) migrants is assumed to bear the same ratio to the total natural increase as does the (net) migrants to the average population of the decade.

¹The net effect of migration differs from net migration in that the births occurring to the migrants entering the region are taken into account. Net migration is the difference between the number arriving and the number leaving by the end of the decade.

Following is the derivation of the mathematical procedure by which net migration effect is approximated:²

M_m = migration minimal

B_t = total births during period

P_1 = population at beginning of period

D_t = total deaths during period

P_2 = population at end of period

M_t = net migration effect

I_n = natural increase

ΔP = change in population during period ($P_2 - P_1$)

Definition of net migration: (migration minimal)

$$\text{Equation (1)} \quad M_m = P_2 - [P_1 + (B_t - D_t)]$$

Natural increase of migrants added to minimal migration:

$$\text{Equation (2)} \quad M_t = M_m + \frac{\frac{M_t}{2}}{\frac{P_1 + P_2}{2}} (B_t - D_t)$$

Rearranging the equation:

$$\text{Equation (3)} \quad M_t - \left(M_t \frac{B_t - D_t}{P_1 + P_2} \right) = M_m = M_t \left(1 - \frac{B_t - D_t}{P_1 + P_2} \right)$$

Simplifying to solve for net migration effect:

$$\text{Equation (4)} \quad M_t = \frac{(P_2 - P_1) - (B_t - D_t)}{1 - \frac{B_t - D_t}{P_1 + P_2}} = \frac{\Delta P - I_n}{1 - \frac{I_n}{P_1 + P_2}}$$

²It is assumed that net migration is evenly distributed throughout the period, thus the average length of residence for the people arriving and leaving the region is one-half the total period.

Unfortunately, birth and death statistics were not available for Arizona prior to 1910. In order to calculate the approximate natural increase for the decade 1900-1909, it was assumed that the natural increase in this period followed the same rate as in the decade 1910-1919. Thus, a rough estimate of the net migration effect during the period 1900-1909 can be obtained by approximating natural increase as follows:

Natural increase 1900-1909 equals

$$\left(\frac{\text{Average population, 1900-1909}}{\text{Average population, 1910-1919}} \right) \left(\begin{array}{c} \text{Natural increase} \\ 1910-1919 \end{array} \right)$$

This estimated natural increase is then substituted for I_n in equation (4) above.

APPENDIX V

Statistical Tables

TABLE 1. - POPULATION GROWTH OF ARIZONA COMPARED WITH
OREGON, WASHINGTON, CALIFORNIA, AND THE UNITED STATES
1890-1940

Year	Arizona	Washington	Oregon	California	United States
	<u>Numbers</u>				
1890	88,243	349,390	313,767	1,213,398	62,947,714
1900	122,931	518,103	413,536	1,485,053	75,994,575
1910	204,354	1,141,990	672,765	2,377,549	91,972,266
1920	334,162	1,356,621	783,389	3,426,861	105,710,620
1930	435,573	1,563,396	953,786	5,677,251	122,775,046
1940	499,261	1,736,191	1,089,684	6,907,387	131,669,275
	<u>Per cent of 1890</u>				
1890	100.0	100.0	100.0	100.0	100.0
1900	139.3	148.3	131.8	122.4	120.7
1910	231.6	326.9	214.4	195.9	146.1
1920	378.7	388.3	249.7	282.4	167.9
1930	493.6	447.5	304.0	467.9	195.0
1940	565.8	496.9	347.3	569.3	209.2

TABLE 2. - SUMMARY OF PUPILS AND FAMILIES ENUMERATED AND
COVERAGE BY COUNTIES IN ARIZONA MIGRATION SURVEY, 1940

County	Per cent average daily attendance covered	Total returns	Families enumerated
State totals	97.7	20,881	13,334
Apache	99.6	302	190
Cochise	100.0	966	598
Coconino	83.4	260	194
Gila	100.0	531	338
Graham	100.0	415	248
Greenlee	100.0	296	184
Maricopa	97.6	10,829	6,795
Mohave	100.0	457	294
Navajo	97.3	471	289
Pima	96.3	2,809	1,967
Pinal	97.5	1,386	861
Santa Cruz	96.2	209	126
Yavapai	100.0	829	547
Yuma	97.4	1,121	703

TABLE 3. - ENTRANTS OF EACH YEAR CLASSIFIED BY REGION OF RESIDENCE IN 1930 AND BY FORMER OCCUPATIONAL GROUP

[illegible][illegible]

TABLE 4. FAMILIES ENUMERATED IN ARIZONA MIGRATION SURVEY CLASSIFIED BY
REGION OF RESIDENCE IN 1930 AND BY OCCUPATIONAL GROUP PRIOR TO MIGRATION

Region of residence in 1930	Total : reporting : occupation a/ : No.	Profes-: sional :		Farm-: ers :		Propri-: etors :		Clerks: laborers :		Skilled : laborers :		Semi-: skilled: laborers :		Farm : laborers :		Unskilled: laborers :		Domes-: tic :		Not-: gain-: ful :	
		Pct.:	Pct.:	Pct.:	Pct.:	Pct.:	Pct.:	Pct.:	Pct.:	Pct.:	Pct.:	Pct.:	Pct.:	Pct.:	Pct.:	Pct.:	Pct.:	Pct.:	Pct.:	Pct.:	
		:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
United States	: 11,277	100.0:	5.1	21.9	8.5	9.3	14.0	14.8	12.6	9.5	2.3	2.0									
New England States	: 46	100.0:	10.9	6.5	10.9	19.6	15.2	21.7	4.3	2.2	6.5	2.2									
Middle Atlantic States	: 339	100.0:	14.7	2.9	19.8	21.8	17.7	14.5	0.6	2.1	2.7	3.2									
E. No. Central States	: 904	100.0:	10.5	8.7	15.3	16.1	17.9	20.2	2.8	4.0	1.7	2.8									
W. No. Central States	: 1,213	100.0:	6.2	19.9	10.0	11.9	15.6	16.1	8.7	7.2	2.0	2.4									
South Atlantic States	: 175	100.0:	12.0	7.4	17.1	13.7	19.0	15.4	2.3	8.0	c/	5.1									
E. So. Central States	: 246	100.0:	6.1	20.7	7.7	9.0	15.0	19.1	4.9	13.0	1.2	3.3									
W. So. Central States	: 4,898	100.0:	1.8	33.6	4.6	4.8	11.1	11.8	18.0	10.4	2.7	1.2									
Mountain States b/	: 2,060	100.0:	6.0	15.3	8.1	8.5	15.3	15.6	12.3	14.2	2.0	2.7									
Pacific States	: 1,396	100.0:	7.2	7.6	13.5	15.3	17.1	18.5	10.0	6.4	2.4	2.0									
	: :	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
	: :	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	

a/ This table excludes families who resided in foreign countries in 1930 and families for whom occupation prior to migration to Arizona was not reported.

b/ Includes those living in Arizona in 1930 who left and then later returned to the state.

c/ Less than 1/10 of 1 per cent.

TABLE 5. FAMILIES ENUMERATED IN ARIZONA MIGRATION SURVEY CLASSIFIED BY REGION OF RESIDENCE JUST BEFORE ARRIVAL IN ARIZONA AND BY OCCUPATIONAL GROUP PRIOR TO MIGRATION

Region of residence prior to arrival in Arizona	Total reporting occupation	Profes- sional	Farm- ers	Propri- etors	Clerks:	Skilled	Semi- skilled	Farm laborers	Unskilled:	Domes- tic	Not- gain- ful	
	No.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	
Total	11,297	100.0	5.2	21.7	8.5	9.4	14.0	14.8	12.6	9.5	2.3	2.0
New England States	52	100.0	19.2	7.7	17.3	15.4	13.5	19.2	3.9	1.9	1.9	2/
Middle Atlantic States	306	100.0	15.7	2.6	19.9	20.9	18.0	14.1	1.3	2.3	2.3	2.9
E. No. Central States	839	100.0	9.9	9.5	14.4	16.0	19.4	19.7	2.6	4.0	1.6	2.9
W. No. Central States	1,102	100.0	6.6	20.2	11.0	12.7	13.7	15.9	8.4	6.8	1.9	2.8
South Atlantic States	175	100.0	14.8	7.4	16.6	13.7	16.0	12.6	3.4	10.3	0.6	4.6
E. So. Central States	235	100.0	5.1	19.2	8.5	10.6	13.6	20.0	3.4	14.5	1.7	3.4
W. So. Central States	4,576	100.0	1.9	34.5	4.8	4.9	11.2	12.2	16.6	10.0	2.8	1.1
Mountain States	2,064	100.0	5.9	16.2	7.2	8.1	15.7	14.7	13.0	14.8	2.0	2.4
Pacific States	1,948	100.0	6.4	8.8	11.8	14.0	16.0	18.2	13.3	7.0	2.4	2.1

a/ Less than 1/10 of 1 per cent.

TABLE 6. FAMILIES ENUMERATED IN ARIZONA MIGRATION SURVEY CLASSIFIED BY
OCCUPATIONAL GROUP AND BY INDUSTRY PRIOR TO MIGRATION

Former occupation	Former Industry												
	Total reporting ^{a/}	Agri- cul- ture	Forest- ry and fishing	Mining	Mfg. & mechan- ics	Trans. & communi- cation	Trade: service	Public service	Profes- sional	Dom. service	Emergency: & unem- ployed	Not gainful and retired	
	No.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	
Total families re- porting occupations:	10,978	100.0	36.8	0.7	5.6	20.8	7.5	12.6	2.9	5.5	4.7	0.8	2.1
Professional persons.....	598	100.0	---	---	2.0	3.9	2.0	0.2	4.0	87.6	---	0.3	---
Farmers (owners and tenants).....	2,519	100.0	100.0	---	---	---	---	---	---	---	---	---	---
Owners, managers and officials.....	997	100.0	---	1.5	2.1	19.7	6.2	51.4	7.2	2.0	9.3	0.4	0.2
Clerks and kindred workers.....	1,015	100.0	0.1	0.3	0.8	12.5	12.7	67.5	3.4	1.9	0.1	0.5	0.2
Skilled workers and foremen.....	1,463	100.0	1.2	0.7	3.6	77.6	8.6	1.6	4.9	0.4	0.2	1.1	0.1
Semiskilled workers:	1,535	100.0	2.5	0.5	2.6	41.8	22.3	9.1	6.1	1.4	12.6	1.1	---
Farm laborers.....	1,467	100.0	100.0	---	---	---	---	---	---	---	---	---	---
Unskilled laborers:	905	100.0	---	4.9	53.1	16.7	15.9	2.1	1.4	0.3	0.7	4.9	---
Domestic and personal workers...	249	100.0	---	---	---	1.6	2.4	0.4	2.0	2.8	90.4	0.4	---
Not-gainful persons.....	250	100.0	---	---	---	---	---	---	---	---	---	---	100.0

^{a/} 13,334 families were enumerated, but 1,713 did not report former occupation, and 643 did not report former industry.

TABLE 7. FAMILIES ENUMERATED IN ARIZONA MIGRATION SURVEY CLASSIFIED BY
PRESENT OCCUPATIONAL GROUP AND BY PRESENT INDUSTRY

Present occupational group	Present Industry													
	Total reporting ^{a/}	Agri- cul- ture	Fore- stry and fish- ing	Mining	Mfg. & mechani- cs	Trans. & communi- cation	Trade & service	Public service	Profes- sional	Dom. service	Emergency & unem- ployed	Not gainful		
	No.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.		
Total ^{a/}	11,412	100.0	26.6	0.8	7.5	20.1	6.7	13.5	4.2	5.8	7.1	3.2	4.5	
Professional persons.....	612	100.0	---	---	2.6	3.3	2.6	---	5.7	83.0	---	1.2	1.6	
Farmers (owners and tenants).....	541	100.0	100.0	---	---	---	---	---	---	---	---	---	---	
Owners, managers, and officials.....	1,209	100.0	---	0.7	2.1	18.0	5.0	47.7	7.9	2.6	13.8	0.5	1.7	
Clerks and kindred workers.....	1,185	100.0	0.2	0.3	0.7	12.7	12.1	61.4	6.9	2.0	1.2	1.9	0.6	
Skilled workers and foremen.....	1,697	100.0	5.4	0.8	6.7	63.9	8.2	2.1	5.6	0.5	0.2	6.4	0.2	
Semiskilled workers.....	1,686	100.0	4.4	0.8	3.3	35.3	16.8	9.5	7.3	2.7	15.4	4.1	0.4	
Farm laborers.....	2,326	100.0	100.0	---	---	---	---	---	---	---	---	---	---	
Unskilled laborers..	1,269	100.0	---	4.6	50.0	17.6	9.4	2.4	2.6	0.8	0.6	12.0	---	
Domestic and personal workers..	424	100.0	---	---	---	0.9	1.4	0.5	3.5	7.3	85.9	0.5	---	
Not-gainful persons.....	463	100.0	---	---	---	---	---	---	---	---	---	---	100.0	

^{a/} 13,334 families were enumerated, but 1,420 did not report present occupation, and 502 did not report present industry.

TABLE 8. OCCUPATIONAL CLASSIFICATION OF HEADS OF FAMILIES
PRIOR TO MIGRATION AND AFTER RESETTLEMENT,
BY COUNTY OF RESIDENCE IN 1940

[illegible][illegible]

TABLE 9. FAMILIES OF VARIOUS OCCUPATIONAL GROUPS PRIOR TO MIGRATION
CLASSIFIED BY COUNTY OF RESIDENCE IN 1940 a/

		(Per cent)							
Occupational group prior to migration	:	County of residence in 1940							All <u>b/</u> other:Total
		:	:	:	:	:	:	:	
		: Cochise:	Maricopa:	Pima:	Pinal:	Yavapai:	Yuma:	:	
Professional	:	4.6	40.2	27.0	2.6	4.8	3.8	17.0	100.0
Farmers	:	3.7	56.3	6.9	11.3	3.1	6.2	12.5	100.0
Proprietors	:	5.7	48.5	20.7	2.7	3.5	4.8	14.1	100.0
Clerical	:	4.0	53.8	20.5	2.9	4.1	2.9	11.8	100.0
Skilled workers	:	4.9	44.6	17.2	5.5	5.7	5.5	16.6	100.0
Semiskilled workers	:	5.3	49.7	15.9	4.8	4.9	6.0	13.4	100.0
Farm laborers	:	2.6	61.2	5.7	11.7	2.7	8.3	7.8	100.0
Unskilled workers	:	6.0	38.3	10.9	6.9	4.8	5.0	28.1	100.0
Domestic workers	:	7.1	50.0	19.8	2.2	2.6	4.9	13.4	100.0
Not-gainful workers	:	6.5	49.6	22.2	5.2	3.5	1.7	11.3	100.0

a/ This classification is based upon 11,621 families who reported former occupation.

b/ Eight counties had to be grouped because the number of families in each was insufficient to allow dependable results when further classified.

TABLE 10. - PERCENTAGE OF FAMILIES RELOCATING IN PRESENT COUNTY WITHIN THE YEAR OF ARRIVAL

Year of arrival in Arizona	All families	Present farm laborer families
1930	77.5	78.6
1931	78.4	80.5
1932	79.5	75.1
1933	82.8	89.2
1934	82.9	76.1
1935	84.8	81.8
1936	84.9	80.5
1937	88.9	88.4
1938	91.5	89.3
1939	99.0	98.3

TABLE 11. - PRESENT OCCUPATIONAL CLASSIFICATION OF FORMER AGRICULTURAL GROUP COMPARED WITH FORMER OCCUPATIONAL CLASSIFICATION OF PRESENT AGRICULTURAL GROUP

Occupational group	Present occupations of former		Former occupations of present	
	Farmers	Farm laborers	Farmers	Farm laborers
Professional	0.6	0.3	1.8	0.1
Farmers	12.4	3.1	57.3	38.7
Proprietors	4.6	1.5	4.9	1.1
Clerks and kindred workers	3.6	2.2	3.1	1.1
Skilled workers	10.0	5.5	9.2	3.9
Semiskilled workers	13.6	9.8	9.4	7.5
Farm laborers	37.0	63.9	8.4	39.4
Unskilled workers	14.5	11.4	4.9	7.5
Domestic and personal	1.4	0.7	0.2	0.6
Not-gainful workers	2.3	1.6	0.8	0.1
Total	100.0	100.0	100.0	100.0

TABLE 12. PERCENTAGE OF FAMILY HEADS CLASSIFIED IN SAME OCCUPATIONAL GROUP PRIOR AND
SUBSEQUENT TO MIGRATION, BY REGION OF RESIDENCE IN 1930

Region	Per cent that continued in same occupational group as prior to migration									
	Profes- sional	Farm operators	Proprietors, managers and officials	Clerks	Skilled laborers	Semi- skilled laborers	Farm laborers	Unskilled laborers	Domestics	Not-gainful persons
Western States	84.7	26.2	71.6	67.5	66.8	52.0	58.2	53.4	55.3	38.4
Middle Western States	77.6	11.6	55.4	65.5	66.1	47.8	46.7	42.0	47.0	47.6
West South Central States	72.7	9.5	52.7	50.9	55.9	42.1	71.8	42.2	49.2	57.8

TABLE 13. COMPARISONS OF HEADS OF FAMILIES WHO ARRIVED IN ARIZONA DURING
1930-33, 1934-36, 1937-40, WITH RESPECT TO PROPORTIONS CLASSIFIED
IN SAME OCCUPATIONAL GROUP AS PRIOR TO MIGRATION

Year of arrival in Arizona	Per cent that continued in same occupation as prior to migration									
	Profes- sional	Farm operators	Proprietors, managers and officials	Clerks	Skilled laborers	Semi- skilled laborers	Farm laborers	Unskilled laborers	Domestics	Not-gainful persons
1930-33	75.1	19.8	59.2	56.0	61.6	43.2	47.1	33.1	39.1	45.0
1934-36	77.8	12.0	50.1	63.1	60.9	46.5	49.7	46.4	59.1	46.3
1937-40	79.6	10.5	66.2	59.1	63.9	48.6	75.6	54.4	57.0	62.2

